

Modelling Systems: Practical Tools and Techniques in Software Development. By John Fitzgerald and Peter Larsen. Cambridge University Press, New York. (1998). 269 pages. \$85.00 (hardback); \$39.95 (paperback) (CD-ROM included).

Contents:

Foreword. Preface. 1. Introduction. 2. Constructing a model. 3. Toolbox lite. 4. Describing system properties using logical expressions. 5. The elements of a formal model. 6. Sets. 7. Sequences. 8. Mappings. 9. Validating models. 10. State-based modelling. 11. Large-scale modelling. 12. Using VDM in practice. Appendices. A. Language guide. B. Solutions to exercises. Bibliography. Subject index. Definitions index.

Modern Graph Theory. By Béla Bollobás. Springer-Verlag, New York. (1998). 394 pages. \$34.95, DM 68.00, öS 497.00, sFr 62.00, GBP 26.00.

Contents:

Apologia. Preface. I. Fundamentals. II. Electrical networks. III. Flows, connectivity and matching. IV. Extremal problems. V. Colouring. VI. Ramsey theory. VII. Random graphs. VIII. Graphs, groups and matrices. IX. Random walks on graphs. X. The Tutte polynomial. Symbol index. Name index. Subject index.

Interactive Linear Algebra with Maple V. By Elias Deeba and Ananda Gunawardena. Springer-Verlag, New York. (1998). 316 pages. \$49.95, DM 98.00, öS 716.00, sFr 89.50, GBP 37.50 (CD-ROM included).

Contents:

Preface. 1. Systems of linear equations. 2. Matrix algebra. 3. Linear spaces. 4. Inner product spaces. 5. Linear transformations. 6. Eigenspaces. Proof of facts. References. Maple and ILAT. Index.

Data Structure Programming: With the Standard Template Library in C++. By Joseph Bergin. Springer-Verlag, New York. (1998). 336 pages. \$49.95, DM 89.00, öS 650.00, sFr 81.00, GBP 34.00.

Contents:

Preface. 1. Data structures and algorithms. 2. Programming with arrays and pointers. 3. Overview of container mechanisms. 4. Overview of the standard template library. 5. Vector programming. 6. Dequeue programming. 7. Lists. 8. Sets, maps, multisets, and multimaps. 9. Hash tables. Appendix. STL summary. Bibliography. Index.

Probability and Stochastic Processes: A Friendly Introduction for Electrical and Computer Engineers. By Roy D. Yates and David J. Goodman. John Wiley & Sons, Inc., New York. (1999). 454 pages. \$90.95.

Contents:

1. Experiments, models, and probabilities. 2. Discrete random variables. 3. Multiple discrete random variables. 4. Continuous random variables. 5. Multiple continuous random variables. 6. Stochastic processes. 7. Sums of random variables. 8. The sample mean. 9. Statistical inference. 10. Random signal processing. 11. Renewal processes and Markov chains. Appendices. A. Common random variables. B. Quiz solutions. References. Index.

Computing for Scientists: Principles of Programming with Fortran 90 and C++. By R. J. Barlow and A. R. Barnett. John Wiley & Sons, Inc., Chichester. (1998). 276 pages. \$22.50.

Contents:

0. Preamble. 1. Basic concepts. 2. Variables and operators. 3. Data structure. 4. Control. 5. Subprograms: Functions and subroutines. 6. Characters and strings. 7. Pointers. 8. Input and output. 9. Numerical methods. 10. Object-oriented programming. Appendices. 1. Answers and code. 2. The ascii character set. 3. Bibliography.

Regression Graphics: Ideas for Studying Regressions through Graphics. By R. Dennis Cook. John Wiley & Sons, Inc., New York. (1998). 349 pages. \$79.95.

Contents:

Preface. 1. Introduction. 2. Introduction to 2D scatterplots. 3. Constructing 3D scatterplots. 4. Interpreting 3D scatterplots. 5. Binary response variables. 6. Dimension-reduction subspaces. 7. Graphical regression. 8. Getting numerical help. 9. Graphical regression studies. 10. Inverse regression graphics. 11. Sliced inverse regression. 12. Principal Hessian directions. 13. Studying predictor effects. 14. Predictor transformations. 15. Graphics for model assessment. Bibliography. Author index. Subject index.

Introduction to Parallel Algorithms. By C. Xavier and S. S. Iyengar. John Wiley & Sons, Inc., New York. (1998). 365 pages. \$74.95.

Contents:

Preface. Acknowledgments. About the author. I. Foundations of parallel computing. 0. Introduction. 1. Elements of parallel computing. 2. Data structures for parallel computing. 3. Paradigms for parallel algorithm. 4. Simple algorithms. II. Algorithms for graph models. 5. Tree algorithms. 6. Graph algorithms. 7. NC algorithms for chordal graphs. III. Array manipulation algorithms. 8. Searching and merging. 9. Sorting algorithms. IV. Numerical algorithms. 10. Algebraic equations and matrices. 11. Differentiation and integration. 12. Differential equations. Answers to selected exercises. Index.